

**Remarks**

The Applicants have amended Claims 1 and 12 – 15 to include the subject matter of Claim 2. Claim 2 has accordingly been cancelled.

The Applicants have also added the aspect wherein the steel satisfies the following equation:

$$“Md(\gamma)=-30\text{--}90$$

where,

$$Md(\gamma)=551-462C(\gamma)-462N(\gamma)-9.2Si(\gamma)-8.1Mn(\gamma)-13.7Cr(\gamma)-18.5Mo(\gamma)-29Ni(\gamma)-29Cu(\gamma),$$

and each component is of  $\gamma$  phase.

Support for that subject matter may be found in the Applicants' Specification in paragraphs [0055] to [0056] and in paragraphs [0093] to [0094] as well as Figs. 1 and 2. Entry into the official file and consideration on the merits is respectfully requested.

The Applicants note with appreciation the withdrawal of the previous rejections. The Applicants acknowledge the new rejection of Claims 1-4, 6-12, 16 and 18-20 under 35 USC §103 as being obvious over the hypothetical combination of Durand-Charre with Alfonsson. The Applicants note with appreciation the Examiner's detailed comments hypothetically applying the combination to those claims. The Applicants nonetheless respectfully submit that even if one skilled in the art were to make the combination, the steels resulting from that combination would still be different than those recited in those rejected claims. Reasons are set forth below.

The Applicants respectfully submit that Alfonsson and Durand-Charre collectively fail to disclose, teach or suggest selected aspects of Claims 1 and 12 – 15. Claims 1 and 12 – 15 obtain 48% or larger total elongation which is achieved by controlling the strain-induced martensite index ( $Md(\gamma)$ ) in the range from -30 to 90. In sharp contrast, Alfonsson and Durand-Charre do

not disclose controlling the strain-induced martensite index ( $Md(\gamma)$ ) to the range from -30 to 90 and also do not disclose 48% or larger total elongation. The Applicants, therefore, respectfully submit that even if one skilled in the art were to hypothetically combine Alfonsson with Durand-Charre, the result of that combination would still fail to disclose, teach or suggest all of the subject matter in Claims 1 – 4, 6 – 12, 16 and 18 – 20.

The Applicants also note with appreciation that the rejection admits that Alfonsson does not disclose that the carbon and nitrogen reside in the austenitic phase. The rejection nonetheless takes the position that the various constitutional elements of the rejected claims overlap with the ranges taught by Alfonsson and that such overlap establishes *prima facie* obviousness.

The Applicants respectfully submit that there is more than just constitutional element overlap that is necessary for there to be *prima facie* obviousness. The reasons are that not only do the constitutional elements of steel have an impact on the resulting physical characteristics of the steel, but so does the methodology used in making such steel. In other words, there are instances when small differences in the constitutional elements of steels can have a significant impact on the physical characteristics. The same is true for methodology. Small changes in methods of making steel can also have a significant impact on the resulting steel. Those skilled in this art are very aware of the importance of methodology with respect to the characteristics of a final steel product.

In this instance, the Applicants disclose a number of important aspects with respect to methodology. For example, the Applicants provide guidance as to methodology generally and specific aspects of the methodology such as in paragraphs [0077] through [0078] and paragraphs [0080] through [0086]. Moreover, the Applicants provide examples which also set forth specific method steps such as in paragraph [0087] and paragraph [0098], for example. This is in addition

to descriptions of the various constitutional elements that are important. For example, paragraph [0079] refers to C, N and Cr as significant elements influencing the austenite phase. This is all in sharp contrast to Alfonsson which provides very little guidance with respect to the methods in which the steels were made. In that regard, Alfonsson refers in paragraph [0055] to a strand made into continuous casting. This strand was cut into slabs and some of the slabs were hot rolled to a particular thickness of 8 mm to 15 mm while other slabs were hot rolled to form coils having a thickness of 4 mm. Some of those hot-rolled coils were further cold rolled to various thicknesses of 3 mm, 1.5 mm and 1.0 mm. Unfortunately, this is the limit of the disclosure with respect to how strands are made by Alfonsson.

Alfonsson also provides very limited description with respect to several laboratory test heats that were made in 30kg increments. Those heats were rolled to the shape of 3 mm in thickness and then used in various mechanical tests. As can be seen, very little guidance is provided by Alfonsson with respect to the methods in which the steels were made. This is a critical problem in establishing that the steels resulting from the Alfonsson disclosure overlap with or are the same or are substantially the same as the Applicants' claimed steels. Although there may be overlapping constitutional elements, there is very little overlap in the methodology disclosed by Alfonsson with respect to the Applicants' disclosure. The Applicants fully recognize that not only are the constitutional elements important, but also selected aspects of producing the steel. There is no such appreciation in Alfonsson and no description of methodology. Therefore, the Applicants respectfully submit that there is no way that one skilled in the art can tell from Alfonsson what the Alfonsson steel sheets will have as their physical characteristics other than the characteristics specifically disclosed by Alfonsson. Thus, the

Applicants respectfully submit that Alfonsson fails to provide disclosure that could or would render the Applicants' Claims 1-4, 6-12, 16 and 18-20 as being obvious.

The Applicants respectfully submit that Durand-Charre fails to cure the deficiencies set forth above with respect to Alfonsson. Assuming *arguendo*, that the Durand-Charre disclosure provides the motivation set forth in the rejection for the hypothetical combination, the result would still not be predictable by one skilled in the art because of the lack of teachings in Alfonsson with respect to the method in which the steels are made. One skilled in the art would be merely guessing at the characteristics of a steel resulting from the combination of Durand-Charre with Alfonsson.

The rejection in discussing Claim 2 refers to inherency and cites MPEP §2112.01. The Applicants fully agree with the teachings of MPEP §2112.01. They are applicable in this instance to demonstrate that the Applicants' Claim 2, as well as the Applicants' Claims 1, 3-4, 6-12, 16 and 18-20, are not obvious. This is because the bar for establishing inherency in MPEP §2112.01 is quite high. In that regard, inherency can only be established if the prior art provides disclosure which is sufficient to establish that the characteristics at issue would "necessarily" be present. It is not enough that those characteristics might be present, could be present or are even likely present. They must be "necessarily" present to successfully establish obviousness.

The Applicants respectfully submit that the combination of Durand-Charre with Alfonsson does not meet this requirement. That is because the characteristics of steels are influenced not only by their constituent elements, but also by the methods of making those steels. The Applicants respectfully submit that both Alfonsson and Durand-Charre fail to provide teachings with respect to methodology when compared to the methods of the Applicants that would lead one skilled in the art to believe that the Applicants' steels would "necessarily" be the

same as the steels resulting from a Durand-Charre combination with Alfonsson. Is it possible that the steel with Alfonsson could be the same? Maybe...but one skilled in the art could only guess. However, even assuming *arguendo* that they might be the same, that is not the same as "necessarily" the same. That does not satisfy MPEP § 2112.01. Withdrawal of the rejection is respectfully requested.

Claims 14 and 15 stand rejected under 35 USC §103 over Alfonsson. The Applicants again note with appreciation the Examiner's detailed comments hypothetically applying Alfonsson against those claims. However, the Applicants have already established the failure of Alfonsson with providing disclosure with respect to the methods of making the Alfonsson steels. Inasmuch as methods of making steel greatly impact the resulting steels, it is merely speculation as to what the characteristics of the Alfonsson steels would be relative to the subject matter of Claims 14 and 15. As such, the Applicants respectfully submit that Alfonsson fails to establish *prima facie* obviousness of those claims.

Claims 1, 3 and 5 stand rejected under 35 USC §103 over the combination of Durand-Charre with Matsui. The Applicants again note with appreciation the Examiner's detailed comments hypothetically applying the combination against those claims. The Applicants nonetheless respectfully submit that even if one skilled in the art were to make that hypothetical combination, the steels resulting from that combination would still be quite different from the subject matter of Claims 1, 3 and 5.

Matsui is even further afield than Alfonsson. That disclosure relates to a secondary combustion chamber cap for diesel power plants. This has nothing to do with the Applicants' stainless steel sheets. Nonetheless, Matsui provides virtually no guidance with respect to the manner in which the Matsui steels are made. Thus, although there is fairly extensive disclosure

with respect to constitutional elements, there is no disclosure with respect to methods of making such steels. The Applicants have already established that the methods of making steel have a significant impact on the resulting steels. Given that the Applicants have discovered not only important constitutional elements with respect to their steels, but also that methods of making those steels can be important, there is nothing in Matsui that shows such a similar recognition. There simply is no disclosure with respect to methodology. As a consequence, one skilled in the art would be merely speculating as to whether the steels of Matsui would be applicable to the Applicants' steels as set forth in Claims 1, 3 and 5.

Hypothetically combining Durand-Charre with Matsui does nothing to cure the deficiencies set forth above with respect to Matsui. The reasons are essentially the same as the failure with respect to Durand-Charre as it applied to Alfonsson. Withdrawal of the rejection is respectfully requested.

Claim 13 stands rejected under 35 USC §103 over Matsui. The Applicants respectfully submit that Matsui is inapplicable to Claim 13 for the same reasons as it was inapplicable to Claims 1, 3 and 5. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury  
Reg. No. 31,750  
Attorney for Applicants

TDC/vp  
(215) 656-3381